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Cooperative
**ECONOMIC INSECT
REPORT**

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AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

GREENBUG widespread and damaging wheat in Wilson County, Texas; present on wheat in Curry County, New Mexico. (p. 13).

CITRUS WHITEFLY heavy on gardenias in central and southern Alabama (p. 15); found in new area of San Diego County, California (p. 16).

PRIVET MITE heavy on azaleas in Lee County, Alabama. (p. 15).

CATTLE LICE heavy on cattle in Oktibbeha County, Mississippi, and in 5 northern counties of New Mexico. (p. 15).

Detection

A CHLOROPID FLY reported for first time in Hawaii. This fly not known to occur in continental United States. (p. 17).

Other new State records include an APHID in New Mexico (p. 14) and an ICHNEUMON WASP in West Virginia (p. 16).

For new county and island records see page 16.

Special Report

Relative Abundance of Bollworm and Tobacco Budworm in Cotton, Soybeans, Tomatoes, and Grain Sorghum in Arkansas, 1949 - 1952 and 1962 - 1967. (p. 18).

Reports in this issue are for week ending January 5 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING JANUARY 8

HIGHLIGHTS: Bitter cold weather gripped most of the Nation. Snow fell over much of the North, sleet and freezing rain south of the snow belt, and generous showers over parts of the Deep South.

PRECIPITATION: No important precipitation fell over California, nearby parts of Nevada and Arizona, and the Florida Peninsula. Elsewhere precipitation was mostly light to moderate. Snow fell in the Northern and Central States with local winds causing considerable drifting. Along the southern edge of the snow belt, mixtures of sleet and freezing rain slicked the highways and made travel difficult and dangerous. Moderate to heavy showers fell over the Deep South with weekly totals from northeastern Texas to the southern Appalachians exceeding 2 inches.

TEMPERATURE: The bitter cold intensified during the week. By the weekend spots in the northern Great Plains had plunged to more than 40° below zero. By Sunday, the zero line had advanced as far south as the southern boundaries of Kansas and Missouri, and subfreezing temperatures occurred along the gulf coast. Lake Charles, Louisiana, registered 28° Sunday morning. The northern third of Minnesota remained below zero the entire week. International Falls, Minnesota, has been continuously below zero since Saturday morning, December 30. Strong winds made the biting cold seem about 20° colder than the actual thermometer readings. Most of the Nation from the northern and central Rocky Mountains eastward to the Atlantic coast averaged 10° to 27° below normal. The Florida Peninsula averaged a few degrees above normal. Only the Florida Peninsula and the gulf coast warmed during the week. (Summary supplied by Environmental Data Service, ESSA.)

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

BET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Adult movement slow into overwintering area west of Los Banos, Merced County, due to weather conditions. Economic numbers on southern exposures absent due to late plant growth. Minimum economic counts present from Coalinga south through Pyramid Hills, Fresno County. (Cal. Coop. Rpt.).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Averaged 10-100+ per linear foot in Curry County wheat. (Nielsen, Mathews). TEXAS - Active in panhandle area although activity throughout State decreased due to colder weather December 22. Current activity and numbers decreased due to cold weather in panhandle area (Daniels); moderate to heavy and widespread with some damage to young wheat near Floresville, Wilson County; some controls applied (Bippert). OKLAHOMA - Decreasing due to cold weather. Ranged 35-50 per linear foot on Johnston County wheat; moderate in Cotton and Bryan County wheat. (Okla. Coop. Sur.). ARKANSAS - Survey negative in northwest area. (Boyer).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARIZONA - Light numbers appearing in Maricopa County alfalfa. (Ariz. Coop. Sur.). MISSISSIPPI - Adults very light, 2-3 per square foot, in Oktibbeha County alfalfa. (Dinkins, Dec. 29).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - MISSISSIPPI - Adults and nymphs light on 12-inch winter wheat in east-central area. (Dinkins). ARKANSAS - Survey negative in northwest area. (Boyer).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Damaging small grains in north-central area and near Breckenridge, Stevens County, 2 weeks ago; some controls applied. (Turney).

TURF, PASTURES, RANGELAND

CRAZY ANT (Paratrechina longicornis) - CALIFORNIA - This species and Antonina graminis continue moderate in Kikuyu grass in parkway lawn strips in San Diego, San Diego County. (Cal. Coop. Rpt.).

ARGENTINE ANT (Iridomyrmex humilis) - CALIFORNIA - Adults heavy in Kikuyu grass and Bermuda grass lawn strips in San Diego, San Diego County; Paratrechina longicornis in area. (Cal. Coop. Rpt.).

FORAGE LEGUMES

PEA APHID (Acyrtosiphon pisum) - MISSISSIPPI - Adults and nymphs moderate, 20-30 per square foot, in Oktibbeha County alfalfa December 29. Adults and nymphs currently light on 12-inch winter wheat in east-central area. (Dinkins). ARKANSAS - Ranged zero to very light in alfalfa in northwest area. (Boyer). OKLAHOMA - Moderate in Bryan County alfalfa. (Okla. Coop. Sur.). NEW MEXICO - Very light on Dona Ana County alfalfa. (Campbell). ARIZONA - Ranged 120-180 per 100 sweeps in Yuma County December 29. Very light in Yuma and Maricopa County alfalfa January 5. (Ariz. Coop. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Counts per 100 sweeps in alfalfa by county December 29: Yuma 60-100, Maricopa 40. Counts per 100 sweeps in alfalfa by county January 5: Maricopa 30, Yuma 40-180. (Ariz. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Ranged 0-20 per 100 sweeps in alfalfa at Yuma, Yuma County. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Adults averaged 60 per 100 sweeps in Maricopa County and mostly small nymphs ranged 25-36 per 100 sweeps in Yuma County alfalfa December 29. Ranged 40-80 per 100 sweeps in alfalfa in Yuma area, Yuma County, January 5. (Ariz. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - MISSISSIPPI - Larvae very light, one per square foot, in Oktibbeha County alfalfa December 29. Adults averaged one per square foot on Oktibbeha County alfalfa January 5; no larvae taken. (Dinkins).
ARKANSAS - Survey negative in northwest area. (Boyer).

SUGARBEETS

SAY STINK BUG (Pitiedia sayi) - ARIZONA - Adults light and active in most fields in Maricopa County December 29. (Ariz. Coop. Sur.).

COLE CROPS

A DARKLING BEETLE (Ulus elongatulus) - TEXAS - This species and probably Epitrix spp. infesting cabbage in San Patricio County; seedling cabbage field near St. Paul destroyed and damage heavy to seedlings in another field December 29. (Deer).

GENERAL VEGETABLES

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Young larvae of this species and Frankliniella spp. on lettuce at Yuma, Yuma County; controls required. (Ariz. Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

AN APHID (Monelliopsis tuberculata Richards) - NEW MEXICO - Collected on foliage of black walnut at Ojo Caliente, Taos County, June 22, 1967, by D. C. Heninger. Det. by A. G. Robinson. This is a new State record. (N.M. Coop. Rpt.). This species was described from Mexico in 1966. As far as can be determined, this is the first published record of M. tuberculata in the United States although there are unpublished records from Utah. (PPC).

CITRUS

CALIFORNIA RED SCALE (Aonidiella aurantii) - ARIZONA - First spray treatment of 3 infestations in Arcadia district of Phoenix, Maricopa County. (Ariz. Coop. Sur.).

CITRUS RED MITE (Panonychus citri) - ARIZONA - Grove treated to prevent fruit blemish at Yuma, Yuma County. (Ariz. Coop. Sur.).

SMALL FRUITS

A NOCTUID MOTH (Zale lunata salicis) - CALIFORNIA - Larvae heavy on berry bushes in Klamath, Del Norte County; more prevalent than usual in 1967. (Cal. Coop. Rpt.).

ORNAMENTALS

CITRUS WHITEFLY (Dialeurodes citri) - ALABAMA - Nymphs very heavy on underside of gardenia plants in central and southern areas; 100-200 per leaf on older plants at commercial building in Opelika. Adults ranged 10-50 per leaf on gardenias at newly landscaped homes in Auburn, Lee County. (McQueen).

A LEAF ROLLER MOTH (Platynota stultana) - CALIFORNIA - Larvae moderate on rose nursery stock growing grounds in San Bruno, San Mateo County; heavier than usual in 1967. (Cal. Coop. Rpt.).

A JAPANESE WEEVIL (Pseudocneorhinus bifasciatus) - MARYLAND - Adults collected on ornamentals and honeysuckle by E. S. Hemming at Easton, Talbot County, August 1967. Det. by C. W. McComb. This is a new county record. (U. Md., Ent. Dept.).

PRIVET MITE (Brevipalpus obovatus) - ALABAMA - Eggs and adults heavy, several hundred per leaf, on several thousand older azalea plants in Opelika, Lee County; infestation 50+ percent. Fewer plants infested in numerous older plantings in Auburn, Lee County; leaf drop 10-25 percent. (McQueen).

TWO-SPOTTED SPIDER MITE (Tetranychus urticae) - ALABAMA - Light to moderate on underside of leaves of numerous azalea plants in Lee County. (McQueen).

MAN AND ANIMALS

MOSQUITOES - LOUISIANA - Larvae collected in Jefferson Parish December 16-22: Aedes vexans, Culex salinarius, Culiseta inornata, and A. mitchellae. Culex salinarius, Culiseta inornata, A. vexans, Anopheles atropos, and A. quadrimaculatus taken in light traps; collections decreasing due to cold weather and intense winds. (Stokes).

SCREW-WORM (Cochliomyia hominivorax) - No cases reported in U.S. January 1-6, 1968. Total of 90 cases reported in portion of Barrier Zone in Republic of Mexico as follows: Territorio sur de Baja California 76, Sonora 2, Chihuahua 1, Coahuila 9, Tamaulipas 2. Total of 11 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operations underway to prevent establishment of self-sustaining population in U.S. Sterile screw-worm flies released: Texas 48,844,000, Mexico 32,322,000. (Anim. Health Div.).

COMMON CATTLE GRUB (Hypoderma lineatum) - NEW MEXICO - Ranged 5-45 per head on untreated herds in State. (Durkin). OKLAHOMA - Counts of less than one per head on treated cattle and 10-15 per head on untreated cattle in Oklahoma City packing plant; 25 per head on untreated cattle in Johnston County. (Okla. Coop. Sur.).

CATTLE LICE - MISSISSIPPI - Heavy on 35 cattle in Oktibbeha County dairy herd. (Dinkins, Dec. 29). NEW MEXICO - Haematopinus eurysternus spotted to heavy on cattle from Rio Arriba, Harding, Quay, Colfax, and Union Counties. (Durkin).

WINTER TICK (Dermacentor albipictus) - OKLAHOMA - Heavy, 200 replete females per head, in Carl Blackwell area of Noble County; larvae and nymphs numerous. (Okla. Coop. Sur.).

A VESPID WASP (Polistes exclamans) - DISTRICT OF COLUMBIA - Collected from small nest outside window in early October 1967 and found in house in September and spring of same year by H. Sollers-Riedel. Det. by O. W. Richards. (Sollers-Riedel).

BENEFICIAL INSECTS

DAMSEL BUGS - NEW MEXICO - Abundant in greenbug-infested wheat around Clovis, Curry County. (Mathews, Nielsen). ARIZONA - Nabis ferus averaged 40 per 100 sweeps in alfalfa in Mesa and Tempe areas of Maricopa County. (Ariz. Coop. Sur.).

LACEWINGS - ARIZONA - Chrysopa spp. and Hemerobius spp. egg laying heavy in sugarbeet fields and citrus orchards in Maricopa County December 29. Averaged 30 per 100 sweeps in alfalfa on Salt River Indian Reservation in Maricopa County January 5. (Ariz. Coop. Sur.).

AN ICHNEUMON WASP (Mesoleius tenthredinis) - WEST VIRGINIA - Male reared from cocoon of Pristiphora erichsonii collected during August 1966 at Barstow, Pocahontas County, by A. T. Drooz. Det. by L. M. Walkley. This is a new State record. (Drooz, USFS).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CITRUS WHITEFLY (Dialeurodes citri) - CALIFORNIA - Found south of Coronado Avenue in Imperial Beach, San Diego County, for southernmost known infestation. Controls applied in known infested blocks and block-band of buffer blocks in Allied Gardens. This infestation outside treatment area and near United States-Mexican border. (Cal. Coop. Rpt.).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - Two sterile flies trapped in separate project traps. Total of 1,231 flies taken in State in 1967; no wild or native flies trapped during year. (Cal. Coop. Rpt.).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Late larvae easily found in bolls in Maricopa County December 29. Many larvae in bolls of unpicked cotton in Maricopa County January 5. Most larvae in brown and about-to-open bolls; larvae in top green bolls killed due to rain followed by low temperatures. Cotton plow-up date extended 15 days. (Ariz. Coop. Sur.).

INSECT DETECTION

New State Records

AN APHID (Monelliopsis tuberculata) - NEW MEXICO - Collected on black walnut at Ojo Caliente, Taos County, June 22, 1967, by D. C. Heninger. Det. by A. G. Robinson. This may be the first published record for the United States although there are unpublished records from Utah. (p. 14).

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A CHLOROPID FLY (Neoloxotaenia gracilis) - HAWAII - Collected from light traps at Honolulu, Oahu. Det. by C. S. Sabrosky. (p. 17).

New County and Island Records

A JAPANESE WEEVIL (Pseudocneorhinus bifasciatus) - MARYLAND - Talbot County. (p. 15).

A PLATASPID BUG (Coptosoma xanthogramma) - HAWAII - Kauai. (p. 17).

HAWAII INSECT REPORT

New State Record - Three specimens of a CHLOROPID FLY (Neoloxotaenia gracilis (Meijere)) taken to date from light traps in Honolulu, Oahu, as follows: One at United States Public Health Service Quarantine Station and 2 at International Airport. Det. by C. S. Sabrosky. Described from Java and widely distributed in Orient. (Joyce). Not known to occur in continental United States. (PPC).

Turf, Pastures - Adults of a GRASS WEBWORM (Herpetogramma licarsisalis) common and causing concern, especially in evenings, to residents and business firms at Honolulu, Oahu. Damage light to heavy on turf in many areas; larvae, pupae, and adults moderate in pasture at Kualoa. Heavy, up to 30 late larvae and 50 pupae per square foot, in pasture at Kawaihoa. (LaPlante et al.).

Vegetables - DIAMONDBACK MOTH (Plutella xylostella) larvae and adults moderate with damage light to moderate on mustard cabbage and daikon in Waianae area of Oahu; larvae and adults trace at Koko Head, Oahu. (Funasaki).

Fruits - PIT SCALE (Asterolecanium pustulans) nymphs and adults medium on younger stems of passion-fruit in Kahului, Maui; heavy in scattered areas. Confined previously to older stems near ground. May develop into serious pest. (Miyahira). BARNACLE SCALE (Ceroplastes cirripediformis) nymphs and adults increased on passion-fruit in Kahului, Maui; generally medium, heavy in spots. A eulophid wasp (Aneristus ceroplastae) evident where scale heavy. (Miyahira).

Ornamentals, Shade Trees - CUBAN-LAUREL THRIPS (Gynaikothrips ficorum) found on umbrella tree, Brassaia actinophylla, in Woodlawn area of Honolulu, Oahu. This is a new host record; previously recorded only from Ficus spp. in State. (Carter).

General Pests - A PLATASPID BUG (Coptosoma xanthogramma) found on Kauai for first time; adults noted on snap beans in backyard garden at Lihue in October and on rose at Koloa in December. Previous island records were Oahu, Maui, and Hawaii. (Mitchell, Chong).

Beneficial Organisms - ROSY PREDATOR SNAIL (Euglandina rosea) active in Hamakuapoko and Haiku area on Maui; moderate numbers recovered and released in other areas. Moderate in Kailua and Kona area of Hawaii Island. (Miyahira, Yoshioka). LANTANA LEAF BEETLE (Octotoma scabripennis) heavy on lantana at Hookena in South Kona, Hawaii Island; mines and adults evident. (Yoshioka).

Miscellaneous - VAGRANT GRASSHOPPER (Schistocerca vaga) female taken in residential area of Kaneohe, Oahu; second specimen taken on windward side of island. (Kumabe).

LIGHT TRAP COLLECTIONS

SOUTH CAROLINA - Charleston - 12/25-31, BL, 32-64°F, 1.98 precip. - Armyworm (Pseudaletia unipuncta) 5, black cutworm (Agrotis ipsilon) 4, granulate cutworm (Feltia subterranea) 14, yellow-striped armyworm (Prodenia ornithogalli) 1.
TEXAS - Brownsville - 12/23-29, BL, 34-73°F, 0.09 precip. - Armyworm 85, black cutworm 147, cabbage looper (Trichoplusia ni) 9, fall armyworm (Spodoptera frugiperda) 5, granulate cutworm 60, salt-marsh caterpillar (Estigmene acrea) 1, tobacco budworm (Heliothis virescens) 2, variegated cutworm (Peridroma saucia) 40, yellow-striped armyworm 230.

CORRECTIONS

CEIR 18(1):6 - GYPSY MOTH (Porthetria dispar) - NEW JERSEY - Change 28 sites to 18 sites. (PPC Ez Reg.).

Relative Abundance of Bollworm and Tobacco Budworm in Cotton,
Soybeans, Tomatoes, and Grain Sorghum in Arkansas,
1949 - 1952 and 1962 - 1967¹

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Studies made during the four-year period, 1949-1952 and the six-year period, 1962-1967, show that the bollworm (Heliothis zea) was by far the predominant Heliothis species in Arkansas, especially during the latter period. Tobacco budworm (H. virescens) much prefers cotton to the three other hosts. The study also shows that there was a marked decline in the relative abundance of the tobacco budworm compared with the bollworm during the overall period. See Table 1. Tobacco budworm represented 22 percent of the Heliothis population on cotton for the 1949-1952 period but only 3.1 percent for the 1962-1967 period. In 1952, 3.3 percent of the Heliothis population on soybeans was tobacco budworm whereas in 1962-1964 and in 1967 tobacco budworm was only 0.10 percent and 0.14 percent respectively of the Heliothis population.

One of 29 Heliothis on tomato in 1952 was tobacco budworm while none of 315 Heliothis on tomato in 1964 was tobacco budworm.

The study shows that soybeans were, for at least the years 1952, 1962-1964 and 1967, only a minor host of the tobacco budworm.

Tobacco budworm was not collected from sorghum during the 1951-1952 period when 176 bollworms were collected from this host. In 1967, no tobacco budworm was found in sorghum. Heliothis were examined and determined in the field; however, numbers were not recorded.

¹Published with the approval of the Director, Agricultural Experiment Station.

Table 1. Field Collections of Heliothis Larvae by Hosts in Arkansas.

	Cotton			Soybeans			Grain Sorghum		Tomato	
	<u>Heliothis</u>		Percent	<u>Heliothis</u>		Percent	<u>Heliothis</u>		<u>Heliothis</u>	
	<u>zea virescens</u>		H. vir.	<u>zea virescens</u>		H. vir.	<u>zea virescens</u>		<u>zea virescens</u>	
1949	73	6	7.6							
1951	28	16	36.4							
1952	318	96	23.2	260	9	3.3			28	1
Total	419	118								
Ave.			22.0							
1951-52							176	0		
1962-64				995	1	0.10				
1962	1041	19	1.8							
1963	2634	164	5.9						315	0
1964	2646	40	1.5							
1965	1154	11	0.9							
1966	89	3	3.3							
1967	435	15	3.3	733	1	0.14				
Ave.			3.1							

Data for the 1949-1952 period are taken from the report of a study by Brazzel et al. (1953). Collections during the 1962-1967 period were taken by several cotton insect scouts, by County Agricultural Agents and by Arkansas entomologists. Determinations for the latter period were by the author.

Further study shows that tobacco budworm is relatively more abundant in early and late summer than it is during midsummer. Table 2 lists collections on a seasonal basis for the period late August through October 1962 and late June to early October 1963.

Table 2. Seasonal Distribution of Tobacco Budworm and Bollworm on Cotton, 1962 and 1963.

Date	Heliothis		Percent H. virescens
	zea	virescens	
Late Aug. 1962	945	3	0.3
Sept. 26 1962	21	7	25.0
Oct. 16 1962	75	9	10.7
Late June 1963	6	11	64.7
Early July 1963	55	17	23.6
Late July 1963	1236	71	5.4
Early Aug. 1963	568	18	3.1
Late Aug. 1963	365	21	5.4
Early Sept. 1963	363	23	6.0
Late Sept. 1963	17	1	5.6
Early Oct. 1963	24	2	7.7

In late August 1962 only three tobacco budworms were collected from cotton compared with 945 bollworms whereas on September 26 and October 16, comparative numbers were 7 to 21 and 9 to 75, respectively. The tobacco budworm population was relatively high compared with that of the bollworm in early 1963, declined in midseason and then increased slightly in late season.

Literature Cited

Brazzel, J. R. and Coauthors. 1953. Bollworm and tobacco budworm as cotton pests in Louisiana and Arkansas. La. Tech. Bul. 482, 47 pp.

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